

QED CORRECTION FOR  $\text{H}_3^+$ 

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A quantum electrodynamics (QED) correction surface for the simplest polyatomic and polyelectronic system  $\text{H}_3^+$  is computed using an approximate procedure. This surface is used to calculate the shifts to vibration-rotation energy levels due to QED; such shifts have a magnitude of up to  $0.25 \text{ cm}^{-1}$  for vibrational levels up to  $15\,000 \text{ cm}^{-1}$  and are expected to have an accuracy of about  $0.02 \text{ cm}^{-1}$ . Combining the new  $\text{H}_3^+$  QED correction surface with existing highly accurate Born-Oppenheimer (BO), relativistic and adiabatic components suggests that deviations of the resulting *ab initio* energy levels from observed ones are largely due to non-adiabatic effects.